

CLAIMS

1. A drug for at least one of prevention and treatment of cardiac failure,
comprising a compound that inhibits a functional expression of ASK1 protein
5 in a cardiomyocyte as an active ingredient.
2. A drug for at least one of prevention and treatment of cardiac failure,
comprising a compound that suppresses apoptosis of a cardiomyocyte induced
by ASK1 protein as an active ingredient.
- 10 3. A drug for at least one of prevention and treatment of cardiac failure,
comprising a compound that inhibits at least one selected from the group
consisting of Daxx, TRAF2, calmodulin-dependent kinase II, MKK3, MKK4,
MKK6, MKK7, JNK, and p38 MAPK as an active ingredient.
- 15 4. A drug for at least one of prevention and treatment of cardiac failure,
comprising at least one kind of compound selected from the group consisting
of a compound that inhibits kinase activity of ASK1 protein in a
cardiomyocyte, a compound that inhibits translation of ASK1 mRNA in a
20 cardiomyocyte, and a compound that inhibits transcription of ASK1 gene in a
cardiomyocyte.
5. The drug according to claim 4, wherein the compound that inhibits kinase
activity of ASK1 protein in a cardiomyocyte is at least one kind selected from
25 the group consisting of a dominant negative mutant of ASK1 protein, an
anti-ASK1 antibody, and thioredoxin.
6. The drug according to claim 4, wherein the compound that inhibits
translation of ASK1 mRNA in a cardiomyocyte is at least one kind selected
30 from antisense DNA, antisense RNA, and RNA for RNA interference.

7. A method for screening a drug for at least one of prevention and treatment of cardiac failure, comprising selecting a medicinal component for at least one of prevention and treatment of cardiac failure from a drug candidate
5 compound by using inhibition of a functional expression of ASK1 protein as an indication.
8. A method for screening a drug for at least one of prevention and treatment of cardiac failure, comprising selecting a medicinal component for at least one
10 of prevention and treatment of cardiac failure from a drug candidate compound by using suppression of apoptosis induced by ASK1 protein as an indication.
9. A method for screening a drug for at least one of prevention and treatment
15 of cardiac failure, comprising selecting a medicinal component for at least one of prevention and treatment of cardiac failure from a drug candidate compound by using inhibition of kinase activity of ASK1 protein as an indication.
- 20 10. A method for screening a drug for at least one of prevention and treatment of cardiac failure, comprising selecting a medicinal component for at least one of prevention and treatment of cardiac failure from a drug candidate compound by using inhibition of autophosphorylation of ASK1 protein as an indication.
- 25 11. A method for screening a drug for at least one of prevention and treatment of cardiac failure, comprising selecting a medicinal component for at least one of prevention and treatment of cardiac failure from a drug candidate compound by using inhibition of transcription translation of ASK1
30 gene as an indication.

12. A method for screening a drug for at least one of prevention and treatment of cardiac failure, comprising selecting a medicinal component for at least one of prevention and treatment of cardiac failure from a drug candidate compound by using inhibition of activity of a factor activating ASK1 protein as an indication.
13. The method for screening according to claim 12, wherein the factor activating ASK1 protein is at least one selected from the group consisting of Daxx, TRAF2, and calmodulin-dependent kinase II.
14. A method for screening a drug for at least one of prevention and treatment of cardiac failure, comprising selecting a medicinal component for at least one of prevention and treatment of cardiac failure from a drug candidate compound by using inhibition of a factor activated by ASK1 protein as an indication.
15. The method for screening according to claim 14, wherein the factor activated by ASK1 protein is at least one selected from the group consisting of MKK3, MKK4, MKK6, MKK7, JNK, and p38 MAPK.
16. A method for at least one of prevention and treatment of cardiac failure, comprising inhibiting a functional expression of ASK1 protein in a cardiomyocyte.
17. A method for at least one of prevention and treatment of cardiac failure, comprising suppressing apoptosis of a cardiomyocyte induced by ASK1 protein.

18. A method for at least one of prevention and treatment of cardiac failure, comprising inhibiting at least one of kinase activity of ASK1 protein in a cardiomyocyte, autophosphorylation of the ASK1 protein in a cardiomyocyte, and transcription translation of ASK1 gene in a cardiomyocyte.

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19. A method for at least one of prevention and treatment of cardiac failure, comprising administering a pharmaceutically acceptable effective amount of the drug for at least one of prevention and treatment of any one of claims 1 to 6.

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20. A method for diagnosing cardiac failure, comprising measuring kinase activity or autophosphorylation of ASK1 protein in a cardiomyocyte.